

REMARKS

Claims 1-39 are pending.

Claims 21-33, 38 and 39 are allowed.

Claims 1-4, 6-19, and 34-37 are rejected.

Claims 5 and 20 are objected to.

Claims 10 is objected to.

Claims 1-4, 6-9, 15-19 and 34 are rejected under 35 U.S.C. 102(b).

Claims 10-12 are rejected under 35 U.S.C. 103(a).

Claims 13 and 14 are rejected under 35 U.S.C. 103(a).

Claims 4 and 20 have been canceled.

Claims 1, 5, 6, 10, and 34-36 have been amended.

Claims 40-42 have been added.

No new matter is added.

Claims 1-3, 5-19, and 21-42 remain in the case for consideration.

Applicant requests reconsideration and allowance of the claims in light of the above amendments and following remarks.

Allowable Subject Matter

Claims 21-33, 38, and 39 are allowed.

Claims 5 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Applicants thank the Examiner for acknowledging the patentable subject matter of claims 21-33, 38, 39, 5, and 20. As mentioned above claim 6 has been rewritten to include all of the limitations of claim 20, thereby placing claim 6 in proper form for allowance. Claim 1 has been amended to include the limitations of claim 4, and for at least the reasons stated above with respect to the § 102(b) rejection should also be in proper form for allowance. Thus, claim 5, which has been amended to depend from claim 1, should likewise be in proper form for allowance.

In the Specification

The specification has been amended to correct informalities and to improve the clarity of the disclosure. No new matter has been added. In particular, the following has been amended in the specification: 1) Page 7, line 23 has been amended to add “, and a protective layer 53 may be formed on the beam leads 52 and the top surface of the base film 51” after “base film 51” so that element 53 shown in FIG. 6 is properly referenced in the specification. As this sentence merely describes what FIG. 6 illustrates, no new matter has been added.

Claim Objections

Claim 10 is objected to because of the following informalities:

In line 3, “500” should be replaced with --500 μ --. Claim 10 has been amended to replace “500” with “500 μ m” for clarity purposes.

Claim Rejections – 35 U.S.C. § 102

Claim 1-4, 6-9, 15-19, and 34-37 are rejected under 35 § U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,037,662 to Yoon et al. (“Yoon”). Applicant respectfully traverses the rejections.

Claim 1 has been amended to include the limitations of claim 4. In amended form, claim 1 now claims a tape circuit substrate comprising:

a base film; and
a plurality of beam leads adjacent the base film having a length and a width, each beam lead including a widthwise wavy portion, wherein the base film has a substantially uniform thickness that follows the contours of the beam leads.

In particular, claim 1 has been amended to further specify that the base film has a substantially uniform thickness that follows the contours of the beam leads. Although the Office Action states that this limitation is taught by FIG. 2 of Yoon, the Applicants respectfully traverse this assertion and points out that FIG. 2 of Yoon does not teach or otherwise disclose the base film following the contours of the beam leads. This distinction can clearly be seen by comparing FIG. 7 of the present application with FIG. 2 of Yoon. While FIG. 2 of Yoon teaches a base film 10 formed on a portion of the leads 4, he does not teach or otherwise suggest that the base film follows the contours of the beam leads, which are left exposed by window 8 in FIG. 2 of Yoon.

Thus, because Yoon does not teach this limitation, the Applicants respectfully submit that amended claim 1 is not anticipated by Yoon and request the allowance of claim 1 in amended form.

Claims 2, 3, and 5 depend from claim 1. Based at least on this dependency, the Applicants submit that claims 2, 3, and 5 are likewise in proper form for allowance.

Claim 6 has been amended to include the limitations of claim 20, which was indicated as allowable by the Examiner if rewritten in independent form. Thus, because claim 6 now includes all of the limitations of claim 20, the Applicants submit that claim 6 is now in proper form for allowance.

Claims 7-9 and 15-19 depend from claim 6. Based at least in part on this dependency, the Applicants submit that claims 7-9 and 15-19 are likewise in proper form for allowance.

Claim 34 has also been amended to specify that each beam lead includes a neck portion extending substantially laterally from the edge of the base film into the opening and a widthwise wavy portion extending from the neck portion through the opening toward at least one of the chip pads formed on the top surface of the integrated circuit chip. This amendment is supported in the specification, for example, at page 7, lines 11-16 of the present application.

In contrast, the beam leads taught by Yoon do not include a neck portion extending substantially laterally from the edge of the base film into the opening. Rather, as FIG. 2 of Yoon illustrates, the beam leads taught by Yoon, immediately descend into the window 8 toward the chip pads. Thus, because Yoon does not teach all of the claim limitations of claim 34, Yoon fails to anticipate claim 34. As such, the Applicants submit that claim 34 is in proper form for allowance and requests that the rejections under § 102(b) be removed.

Claims 35-37 depend from claim 34. Based at least in part on this dependency, the Applicants submit that claims 35-37 are likewise in proper form for allowance.

Claim Rejections – 35 U.S.C. § 103

Claims 10-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoon.

Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoon as applied to claim 6 above, and further in view of U.S. Patent No. 5,744,859 to Ouchida (“Ouchida”).

Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoon as applied to claim 6 above, and further in view of U.S. Patent No. 6,278,176 Nakamura et al. (“Nakamura”).

Claims 10-14 depend from claim 6. As mentioned above claim 6 has been amended to include the limitations of claim 20, and is thus in allowable form. Therefore, based at least on their dependency, claims 10-14 are likewise in proper form for allowance.

New Claims

Claims 40-42 have been added. Claim 40 is an independent claim that includes the limitation of a beam lead including a neck portion extending substantially laterally from the base film and a widthwise wavy portion extending from the neck portion. As discussed above with regard to claim 34, Yoon does not teach this limitation. Further neither Ouchida nor Nakamura teach this limitation. As such, the Applicants submit that claim 40 is in proper form for allowance. Further claims 41 and 42 depend from claim 40. Based at least on their dependency, the Applicants submit that claims 41 and 42 are likewise in proper form for allowance.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-3, 5-19, and 21-42 of the application as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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